regions may be partly due to the intense discharge of negatively electrified particles into the atmosphere from the highly electrified mountain mass, while of course the rapid currents of rising and falling air are thermodynamic effects.

Other properties of the radiations from radiant matter are fully given by Prof. J. J. Thomson in his article in the Encyclopedia Britannica on the electric discharge through gases.

Gases become conductors of electricity when they are exposed to the Roentgen rays or to the radiation from uranium, thorium, polonium, radium, or actinium, or by the passage through them of cathode rays or Lenard rays, or by exposure to the radiation emitted by electric sparks. * * * A gas exposed to Roentgen rays retains its conductivity for some little time. If, however, it is filtered through a plug of tightly packed glass, wool, or through water, or through metal tubes, or if an electric current be made to traverse it, its conducting power is removed. * * * We regard the conductivity of the gas as due to the presence of positively and negatively electrified particles called ions. * * * An ion after being formed does not last forever, but has a certain duration of life. * * *

The life of an ion in a gas at low pressure is longer than at high pressure, but the velocity of the ion is greater at low pressure. The velocity of the negative ion is almost always larger than that of the positive ion; but if moisture be present in the gas it tends to collect around the ion; it condenses more easily on the negative than on the positive ion, and produces a relatively larger diminution in the velocity of the negative than the positive. When Roentgen rays are passed through moist but dustless air while the air is being expanded, a small expansion and cooling will produce cloudy condensation, but a much larger expansion and cooling will be needed in order to produce cloudy condensation without the assistance of the ions produced by the Roentgen rays. The latter seem, therefore, to act as nuclei favoring the condensation of the vapor.

The sun as the source of our light and heat sends us an intense and complex radiation which doubtless includes the Roentgen and other forms of rays. Sunlight as we get it at the earth's surface is possibly not so rich in these rays as it is at the upper limit of the atmosphere and it does not produce electric conductivity in gases so perfectly as does the radiation from the electric arc light. Elaborate series of observations have rendered it probable that ultraviolet light does not ionize the gas through which it passes until after it has struck the absorbing surfaces between which the electric discharge is taking place, whereas in the case of the cathode and the Lenard rays the gas is ionized at once by the passage through it of the negatively electrified particles moving with great velocity.

It is a plausible hypothesis that sunlight after striking the negatively electrified surface of the earth is reflected and changed in some such manner that the radiation outward from the earth's surface has the power to ionize some of the constituents of the atmosphere and stimulate the condensation of vapor into fog and cloud. Meteorologists therefore must look forward with much interest to further investigations in this field of research.

WEATHER BUREAU MEN AS INSTRUCTORS.

Mr. Ford A. Carpenter, Observer, reports that on December 10, he delivered a lecture on Weather Studies without Instruments before the senior class of the San Diego State Normal School; special reference was made to the clouds and their relation to weather changes.

H. H. MOORE.

Harry H. Moore, voluntary observer for a number of years past, was born in New Haven, Conn., January 15, 1872. At an early age he evinced a mental activity far in excess of his physical strength—a condition remaining with him through life.

Unable to enter into any active business pursuit, he turned to books, music, and nature for recreation, being an extensive reader, a fine pianist and a genuine lover of natural scenery; his love of nature led him into the habit of observing the varying phases of the weather.

The most marked characteristics of his nature were truth and accuracy, subordinating everything, often personal inconvenience, to attain these; this is shown by the careful manner in which his weather reports were prepared, and the punctilious care which characterized all his dealings.

To the casual observer he was quiet and reserved; to those who knew him intimately, a young man of the highest ideals, an exponent of the worthiest sentiments found in humanity, a trusted and loyal friend, whose death occurring in Hartford, Conn., December 8, 1902, leaves no stain, no blemish—only a pure, sweet memory.—*K. G. T.*

CORRIGENDA.

MONTHLY WEATHER REVIEW for July, 1902, page 357, column 1, lines 21 and 22 from bottom, for "several ascensions" read "first ascension;" line 19 from bottom, for "same" read "next."

MONTHLY WEATHER REVIEW for November, 1902, page 525, column 1, line 25, for "1852" read "1872."

THE WEATHER OF THE MONTH.

By W. B. STOCKMAN, Forecast Official, in charge of Division of Records and Meteorological Data.

CHARACTERISTICS OF THE WEATHER FOR DECEMBER.

The mean temperature for the month was generally below the normal, and in appreciable values in the different geographical districts, except in the South Atlantic States, Florida Peninsula, the middle Plateau, and middle and south Pacific districts, where the mean daily departures were slightly in excess.

In the west Gulf States, upper Lake region, North Dakota, middle and southern slope, southern and middle Plateau, and middle and southern Pacific districts there was a slight deficiency in precipitation, the greatest departures —1.5 inches and —1.0 inch, occurring, respectively, in the two last-named districts. In the remaining geographical districts the precipitation was above the normal, but the departures were slight, except in New England, the Middle Atlantic States, Ohio Valley and Tennessee, Missouri Valley, and the north Pacific districts, where they ranged from + 1.1 inches to + 2.3 inches.

The relative humidity was normal in the east Gulf States, North Dakota, and the north Pacific districts; slightly below in the South Atlantic States, Florida Peninsula, and the middle and south Pacific districts; elsewhere it was above normal, and markedly so in the northern slope and middle slope regions, where it amounted to + 13 per cent and + 10 per cent, respectively.

The cloudiness was below the average in the Florida Peninsula, North Dakota, and the middle Plateau region; normal in the south Pacific district, and above normal in the remaining geographical districts.

PRESSURE.

The distribution of monthly mean pressure is shown graphically on Chart VI and the numerical values are given in Tables I and VI.

The area of highest mean barometric pressure overlay the Middle Atlantic and Southern States, central valleys, and cen-